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ABSTRACT

Teachers at the primary level should resume the neglected practice of diagnostic teaching. This means that the teacher should observe all aspects of a student's cognitive behavior in the teaching/learning act and then plan instructional strategies for subsequent lessons. Some significant cognitive behaviors observable in diagnostic teaching are students' auditory and visual attention and recall and their tracking and blending abilities. Students exhibiting deficiencies in these areas need additional tactile, kinesthetic, auditory, oral, and visual stimulation. Teaching principles and strategies teachers might use to supplement basal reader programs are: (1) emphasize listening, speaking, reading, tactile, and writing activities for students with poor visual recall; (2) introduce all new vocabulary in familiar printed and oral context for initial teaching; (3) insert visual clues (mnemonic aids) in reading materials; (4) teach each letter sound with one visual clue; (5) sequence and pace all tasks so that overlearning occurs for each one; (6) recognize the significiance of levels of cognitive development in students; and (7) encourage students to learn to read the language of formal written expression by listening to adult models. (FL)

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TEACHER OBSERVATIONS FOR DIAGNOSTIC TEACHING

Russell W. Saunders, Jr.

During the present so-called accountability period (Goodlad 1975) and period of objective-based reading instruction (Duffy 1978), the emphasis for reading has been on the identification of skills and on a sequence of test, teach, and retest. Thus, two-thirds of class time has been relinquished to testing. This has left very little time for imaginative or creative teaching. How can classroom teachers regain teaching time and be assured that the appropriate reading skills have been selected and sequenced, that instruction has been suitably paced, and that reading skills have been applied by the students? An alternative to the present dilemma is offered in a proposal that teachers should resume a neglected practice of diagnostic teaching. This term is defined here to mean: observing all aspects of a student's cognitive and affective behavior in the teaching-learning act and then planning instructional strategies for the next lesson. Only observed cognitive behaviors will be described because the definition is too broad for treatment here.

In observed cognitive behavior teachers attend to the activities of listening, speaking, reading (oral and silent), and writing in all content areas. Historically, teachers have relied intentionally and intuitively on these language activities to diagnose needs and to evaluate student achievement. However, current emphasis on a test, teach, and retest sequence has raised doubts in the minds of teachers about the validity of diagnostic teaching as they have practiced it in years past. From conversations with teachers and from classroom

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visitations it can be concluded that this sequence often restricts students largely to paper and pencil measures. At best, these measures frequently provide teachers with a paucity of useful information about student needs and achievement, and at worst, the information may not correlate with the skills being taught at any specific moment. And again, the time required to administer paper and pencil measures discourages teachers from applying skills of observation which are of central importance in diagnostic teaching.

Another point favoring diagnostic teaching is that teacher observation yields understandings of adequacies and deficiencies in sensory modalities - understandings gained from observations of student behavior and a study of the daily work of students engaged in cognitive learning tasks.

The major purpose of this paper is to review significant cognitive behaviors observable in diagnostic teaching. These behaviors are familiar to most classroom teachers, for they disclose adequacies and deficiencies in sensory modalities - particularly the auditory and visual channels. A secondary purpose here is to review some teaching principles and to describe methods for preventative and remedial intervention in reading instruction. These are aural, oral, visual, kinesthetic, and tactile methods for teaching students who appear to be weak in visual memory. They are recommended as a supplement to basal reader programs which lack sufficient modality emphasis for some students. Refer to Figure 1 for a succinct statement of recommended preventative and remedial intervention.

FIGURE 1: OBSERVED AUDITORY AND VISUAL ABILITIES IN STUDENTS

AUDITORY CHANNEL	VISUAL CHANNEL	Recommended Preventative or Remedial Intervention
Attention	Attention	
1. Student may follow directions well or may be easily distracted by environmental sounds.	1. Student tends to look away from a page when it is not his turn to read or when instructed to "follow along" as others read.	1. Encourage fingerpointing or use of slider for silent and oral reading.
Immediate and Delayed Recall	Immediate and Delayed Recall	
2. Student can recall poems, rhymes, story details, classroom events, teacher's directions, events outside of school. Student may memorize a story rather than try to read it from the printed page. Student prefers to read aloud when expected to read silently.	2. Student is unable to recall words supplied by the teacher from line-to-line or from page-to-page. Student is unable to conserve, seriate, or classify in Piagetian terms. Student has poor memory for words in isolation.	2. Use both auditory and visual channels for teaching connected materials including: Read to the student or the student listens to a tape. Then the student reads and records on tape. Insert visual clues in reading materials including: color clues to highlight commonly reversed or inverted letters, phonic elements, and words similar in configuration. vertical lines between words in a sentence. notations on textbook pages to call attention to new vocabulary, compound words, and inflected forms. Introduce all vocabulary in written and verbal context. Strive for overlearning in context before recognition of words in isolation including: listening and recording sentences on language master cards, and completion of teacher-prepared, sentence-tracing worksheets and single-word worksheets.
	3. Oral and silent reading rates are too slow although comprehension may be satisfactory. Student substitutes words similar in configuration and similar or dissimilar in meaning. Students with elaborated speech may make meaningful substitutions, hence comprehension may exceed expectations. The opposite tends to be true of students with nonelaborated speech.	3. Model oral reading. Student rereads and imitates comprehension clues communicated from syntax. Student completes teacher-prepared cloze exercises for correcting confusions in word configuration.

FIGURE 1: OBSERVED AUDITORY AND VISUAL ABILITIES IN STUDENTS

(Continued)

AUDITORY CHANNEL	VISUAL CHANNEL	Recommended Preventative or Remedial Intervention
	3. In spelling, student generalizes phonics rules to most words. Example: <u>trade</u> is spelled <u>traid</u>. Student compositions are readable but spelling errors are numerous.	3. Write each letter on student's back. Student spells aloud, writes in the air, and then on paper.
<u>Tracking and Blending Ability</u>	<u>Tracking and Blending Ability</u>	
4. Student synthesizes auditorially with varying degrees of success (cow-boy, c-a-t, m-e). There is a range of abilities among beginning readers.	4. Student's aural-oral-visual blending ability is slow in developing. Student is unable to discern where one word ends and the next begins in a line of print. There may be an increase in motor activity during reading (figeting, rubbing eyes, falling out of chair, yawning etc) and other avoidance behavior.	4. Teach letter sounds by associating one picture with each sound. To do this: prepare a picture-sound card for each sound and drill for overlearning. insert a picture clue above words in context and in isolation. Teach sound blending as a student: manipulates picture-sound cards. listens and then records words blended on language master cards. writes each letter in the air and on paper. sounds each letter written on his back with the teacher's finger. simultaneously sounds and circles each letter in a word. spells a word aloud before sounding it out.

Auditory and Visual Attention and Recall

Historically, primary grade teachers have observed a range of auditory attention abilities in their students. The range has extended from students who have strong listening skills and have been able to follow oral directions, differentiate environmental sounds, and to listen for a purpose - to less capable students who have been easily distracted by environmental sounds during an audience listening activity.

Teachers have also been aware of the range of visual attention abilities in their students. Some could sustain attention to lines of print while others were easily distracted.

Teachers have identified students with strong auditory recall abilities - those who could recall poems, story details, teacher directions, and auditory aspects of nonschool events. In beginning reading, teachers have occasionally observed students who have memorized a story, but who were unable to read from a selected page. This latter observation suggested that the students were weak in visual memory, especially if they could not recall words repeated in print from line-to-line or from page-to-page; or if they could not recognize a word written with the first letter capitalized, then with all letters capitalized, and then written in manuscript or cursive letters of different shapes and sizes. For these, teachers have concluded that they were unable to <u>conserve</u> in Piagetian terms (Waller 1977:5).

In the past, teachers have observed that students confused words which were alike or unlike in configuration and meaning (stray-string, attached-added). This confusion occurred when auditory

memory was stronger than visual memory. Those students with elaborated speech patterns substituted more synonyms than students with nonelaborated speech. Teachers have recognized that students experienced in listening to the more formal syntax of print appeared also more likely to make meaningful substitutions in oral and silent reading. A summary of studies in listening (McCormick 1977) supports this conclusion.

Teachers have observed that students frequently read too slowly, orally and silently, if they were weak in visual memory. Their comprehension scores on reading tests were depressed if they were not permitted to read beyond the time limits, since they were able to answer more of the test items correctly if permitted to ignore time constraints. Some teachers have resorted to having students read test items aloud to get a clearer picture of comparative strengths in auditory and visual memory.

The written work of students has been a rich source of information about the comparative strengths of auditory and visual recall. Teachers have analyzed compositions, spelling tests, and other work to assess abilities in applying phonic generalizations and progress in learning to spell nonphonetic words. A tendency to generalize phonic rules to most words has also alerted teachers to problems in visual memory.

Auditory and Visual Tracking and Blending Abilities

In the past, primary grade teachers have observed the range of auditory blending abilities among their students. It may have extended from capable students who were able to recognize the word sounded (c-a-t) to the less capable students who were unable to recognize the word sounded (cow-boy).

Teachers have been aware that there is a range in visual tracking and blending abilities among their students. The less capable students have not been functioning at the level of concrete operational thought in Piagetian terms, for they have been unable to seriate or classify. To seriate, students learned sound blending, at the auditory level, and the left-to-right principle by which words are spelled and ordered, at the visual level. Students unable to seriate have experienced difficulty determining where one word ends and the next one starts in a line of print. To classify, students learned to recognize and discriminate the forms of the letters of the alphabet (capital, lower case, manuscript, cursive). Students unable to classify have had difficulty learning to make those discriminations (Waller 1977: 8-9).

Teaching Principles and Strategies

Classroom teachers have been observed supplementing basal reader programs for students who made less than average progress in learning to read. Those teachers prepared materials to supply additional tactile, kinesthetic, auditory, oral, and visual stimulation. This kind of teaching is eclectic and has been rewarding for students because they learned to read in spite of the limitations of basal reader programs. The teaching principles and strategies described in the paragraphs that follow are recommended to supplement basal reader programs.

Principle #1: Emphasize listening, speaking, reading, tactile, and writing activities for students with poor visual recall.

Teach students to listen and to follow connected materials in a basal reader etc. Read to them or prepare a tape recording.

Next, the students read to a listener or record on tape.

On a worksheet students write by tracing sentences containing new vocabulary, or they write by copying sentences from the chalkboard, or they listen to sentences written and recorded on language master cards. Then they read the sentences, record, and write them. For all preprimer level vocabulary, teachers should indicate sequence and direction for letter formation with numbers and direction arrows.

Teachers write a word letter-by-letter on the student's back with a finger. The student spells aloud, writes in the air, and then writes on paper.

Students point to words or move a slider when reading silently. They auditorize by reading softly if they have shown a preference for reading aloud during silent reading assignments.

Principle #2: Introduce all new vocabulary in familiar printed and oral context for initial teaching.

Word recognition ability is enhanced if a word is introduced with familiar words, as in a sentence. Strive for overlearning in context before seeking recognition of words in isolation.

The recognition of words in isolation has been overlearned if students can recognize several forms of the word i.e., a word written in manuscript and cursive letters, or in upper case letters, or in lower case letters etc. Form constancy (conservation) exercises should be devised to accomplish this (Saunders, Rathbun 1978: 25-34).

Principle #3: Insert visual clues in reading materials. These are mnemonic aids that strengthen visual memory.

On the chalkboard, on worksheets, and in game activities, add color to highlight: commonly reversed and inverted letters (color

one in each pair: u - n, w - m, d - b, etc.), letters in words similar in configuration (house - horse, that - what, when - where, etc.), and root words (walks, walked, walking, etc.).

Draw | a | vertical | line | between | each | word | in | a | sentence | so that | students | can | see | where | each | word | begins | and | ends.

Place a picture above a word as a clue to the sound of the first letter. A rebus can be placed above a word to aid word recognition.

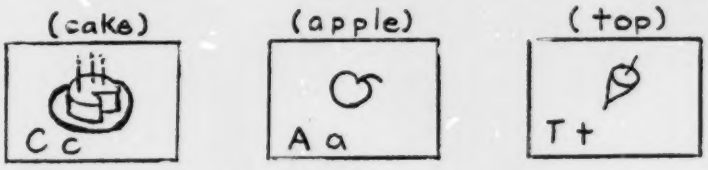
Changes can be inserted on pages of a basal reader etc. by underlining new vocabulary, roots of inflected forms (sweet|ly), and compound words (cow|boy) etc.

Principle #4: Teach each letter sound with one visual clue.

A single visual clue functions as a mnemonic aid to strengthen visual memory and to ensure overlearning.

Teach students to associate one pictured object (cake for the sound of c) with the sound of the letter. The goal is to secure an overlearned response to the stimulus picture cake. Prepare one picture-sound card for each sound to be taught (initial and final consonants, initial and final consonant blends, vowel digraphs, diphthongs etc.).

Examples:

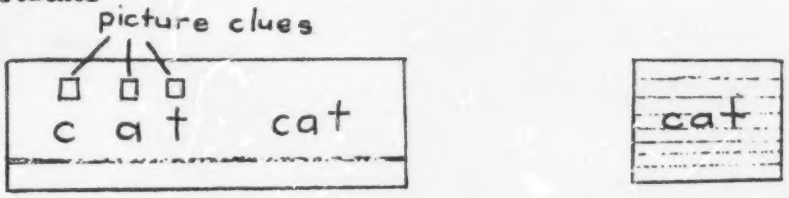


Students manipulate these picture-sound cards above and sound out and blend the word, c-a-t. Then they write the word.

Or students: 1. listen to words sounded out and blended on language master cards, 2. record by sounding out and blending, c-a-t - cat, 3. write cat.

Page 10: Teacher

Example:



1. LISTEN 2. RECORD 3. WRITE

Principle #5: Sequence and pace all tasks so that overlearning occurs for each one.

Overlearning builds a framework for attaching the next task to be learned i.e., students will experience success if the sequence of tasks is built on what they already know; then if pacing is appropriate, each new task will be overlearned before another one is introduced. The process is cyclic.

Principle #6: In diagnostic teaching, instructional planning should recognize the significance of levels of cognitive development in students.

As an example for beginning or remedial readers, instructional planning takes into account the performance of students on tasks involving the processes of conservation, classification, and seriation described earlier (Waller 1977: 8-9).

Principle #7: Students learn to read the language of formal written expression by listening to adult models.

Aside from the emotionally supportive role of a parent who sits and reads to a child, this practice also promotes vocabulary growth in the language of written expression. Invaluable comprehension clues are communicated to a child from a syntax consisting of: 1. intonation patterns (pitch, stress, juncture), 2. sentence patterns (word order), 3. structure words (conjunctions, noun-verb-phrase-clause-question markers), 4. word-form changes (changes in number and

verb tense, additions of prefixes and suffixes) (Lefevre 1964). Other advantages of reading aloud include the improvement of visual decoding and visual memory (McCormick 1977).

Experience in listening promotes the transition from learning to receive and express oral language - to learning to comprehend the syntax of books. The void must be filled by someone when parents do not sit with their children and read to them. The methodology recommended to accomplish this is beyond the scope of this paper. Refer to the so-called modified neurological impress method which describes the problem and treats it in detail (Saunders, Rathbun: 1978, 35-45).

It has been the purpose here to review significant cognitive behaviors observable in diagnostic teaching and to encourage teachers to continue this practice. Some significant teaching principles and effective methods have been reviewed for teachers in need of supplementary methods for basal reader programs.

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